WHAT IS CLAIMED IS

A method of manufacturing an electron source,
 comprising:

a step of forming, on a substrate, a plurality of row

wirings, a plurality of column wirings, and a plurality of
pairs of conductive films arranged in a matrix by the
pluralities of row and column wirings, each pair of
conductive films being formed through a gap;

a first voltage application step of selecting a row
wiring among the plurality of row wirings in the presence
of an activation substance source, and applying a
substantially same constant voltage to each of a plurality
of pairs of conductive films connected to the selected row
wiring; and

a second voltage application step of applying a predetermined voltage to at least specific pairs of conductive films among a plurality of pairs of conductive films connected to unselected row wirings.

20 2. A method of manufacturing an electron source, comprising:

a step of forming, on a substrate, a plurality of row wirings, a plurality of column wirings, and a plurality of pairs of conductive films arranged in a matrix by the pluralities of row and column wirings, each pair of conductive films being formed through a gap;

a first voltage application step of selecting a row wiring among the plurality of row wirings in the presence of an activation substance source, and applying, to the plurality of column wirings, a voltage set to compensate for influence of a voltage drop caused by the selected row wiring; and

a second voltage application step of applying a predetermined voltage to at least specific pairs of conductive films among a plurality of pairs of conductive films connected to unselected row wirings.

3. A method of manufacturing an electron source, comprising:

a step of forming, on a substrate, a plurality of row

15 wirings, a plurality of column wirings, and a plurality of

conductive films each having an electron-emitting portion

that are arranged in a matrix by the pluralities of row and

column wirings;

a first voltage application step of selecting a row

wiring among the plurality of row wirings in the presence
of an activation substance source, and applying a

substantially same constant voltage to each of a plurality
of pairs of conductive films connected to the selected row
wiring; and

a second voltage application step of applying a predetermined voltage to at least specific pairs of

conductive films among a plurality of pairs of conductive films connected to unselected row wirings.

4. A method of manufacturing an electron source, comprising:

a step of forming, on a substrate, a plurality of row wirings, a plurality of column wirings, and a plurality of conductive films each having an electron-emitting portion that are arranged in a matrix by the pluralities of row and column wirings;

a first voltage application step of selecting a row wiring among the plurality of row wirings in the presence of an activation substance source, and applying, to the plurality of column wirings, a voltage set to compensate for influence of a voltage drop caused by the selected row wiring; and

a second voltage application step of applying a predetermined voltage to at least specific pairs of conductive films among a plurality of pairs of conductive films connected to unselected row wirings.

5. The method according to claim 1, further comprising a step of detecting currents flowing through the column wirings.

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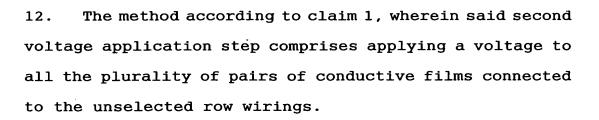
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6. The method according to claim 5, wherein the step of

detecting currents comprises a step of detecting currents flowing through the column wirings in said first voltage application step.

- 5 7. The method according to claim 1, further comprising a step of detecting currents flowing through the row wirings and the column wirings.
- 8. The method according to claim 7, wherein the step of detecting currents comprises a step of detecting currents flowing through the row wirings and the column wirings in said first voltage application step.
- The method according to claim 1, wherein the
 activation substance source contains a substance which is deposited on the conductive film to increase an emission current.
- 10. The method according to claim 1, wherein the 20 activation substance source is a carbon compound.
 - 11. The method according to claim 1, wherein said first voltage application step comprises sequentially selecting each of the plurality of row wirings and applying the voltage.



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13. A method of manufacturing an image display apparatus having an electron source having, on a substrate, a plurality of row wirings, a plurality of column wirings, and a plurality of electron-emitting devices arranged in a matrix by the pluralities of row and column wirings, and a fluorescent film irradiated with electrons from the electron source,

wherein the electron source is manufactured by the method defined in claim 1.